

1. A method for estimating an image illuminant, the method comprising:
 - forming an illuminant set comprising data describing a plurality of candidate illuminants;
 - analyzing an image in relation to said plurality of candidate illuminants to determine a plurality of match scores for said plurality of candidate illuminants;
 - fitting a surface to said plurality of match scores, said surface representing illuminant values other than said candidate illuminants; and
 - determining a point on said surface, said point corresponding to the data representing a likely illuminant for said image.
2. A method as described in claim 1 wherein said illuminant set is a design matrix for a predetermined set of illuminants.
3. A method as described in claim 1 wherein said illuminant set is a matrix of monomial basis functions in the color coordinates of each of said candidate illuminants.
4. A method as described in claim 1 wherein said analyzing comprises forming an image histogram of image element color coordinates relative to color coordinate distributions under said candidate illuminants.
5. A method as described in claim 1 wherein said fitting a surface comprises a best-fit least squares method.
6. A method as described in claim 1 wherein said fitting a surface comprises taking a weighted average of the match scores of the candidate illuminants.
7. A method as described in claim 1 wherein said determining a point on said surface comprises locating surface extremum.

8. A method as described in claim 7 wherein said method of locating said surface extremum comprises forming derivatives of said surface and setting them equal to zero to locate surface extremum.
9. A method as described in claim 1 wherein said determining a point on said surface comprises solving for the color coordinates of an extrema on said surface and,
 - choosing the point of the extrema when the coordinates of said extrema are closer to the reference illuminant coordinates than the closest candidate illuminant coordinates;
 - or
 - choosing the point of the closest candidate illuminant coordinates when the closest candidate illuminant coordinates are closer to the reference illuminant than the extrema.
10. A method for estimating an image colorbalance correction, the method comprising:
 - forming an illuminant set comprising data describing a plurality of candidate colorbalance corrections;
 - analyzing an image in relation to said illuminant set to determine a plurality of match scores for said plurality of candidate colorbalance corrections;
 - fitting a surface to said plurality of match scores, said surface representing colorbalance correction values other than said candidate colorbalance corrections; and
 - determining a point on said surface, said point corresponding to the data representing a likely colorbalance correction for said image.
11. A method for estimating an image illuminant, the method comprising:
 - forming a design matrix comprising the parameters of a plurality of candidate illuminants;
 - computing an image histogram comprising data relating the frequency of image element color values to color values found under said candidate illuminants;

determining match scores for said plurality of candidate illuminants;
fitting a surface to said match scores, said surface representing illuminant parameter values other than said candidate illuminants;
solving for an extremum of said surface; and
choosing the coordinates of said extremum as the parameters of an estimated image illuminant.

12. A system for estimating an image illuminant, the method comprising:
- an illuminant set comprising data describing a plurality of candidate illuminants;
 - an analyzer for analyzing an image in relation to said plurality of candidate illuminants to determine a plurality of match scores for said plurality of candidate illuminants;
 - a fitter for fitting a surface to said plurality of match scores, said surface representing illuminant values other than said candidate illuminants; and
 - a processor for determining a point on said surface, said point corresponding to the data representing a likely illuminant for said image.
13. A set of executable instructions for estimating an illuminant of an image, said instructions comprising the acts of:
- forming an illuminant set comprising data describing a plurality of candidate illuminants;
 - analyzing an image in relation to said plurality of candidate illuminants to determine a plurality of match scores for said plurality of candidate illuminants;
 - fitting a surface to said plurality of match scores, said surface representing illuminant values other than said candidate illuminants; and
 - determining a point on said surface, said point corresponding to the data representing a likely illuminant for said image.